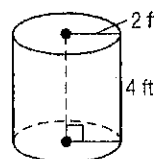


12 Chapter 12 Test, Form 1 (continued)

For Questions 11 and 12, use the figure.

11. Find the lateral area to the nearest tenth.

- A. 75.4 ft² B. 62.8 ft²
C. 50.3 ft² D. 25.1 ft²



11. C

12. Find the surface area to the nearest tenth.

- A. 75.4 ft² B. 62.8 ft² C. 50.3 ft² D. 25.1 ft²

12. A

13. The lateral area of a regular pyramid is 300 square units. The perimeter of its base is 100 units. Find the slant height of the pyramid.

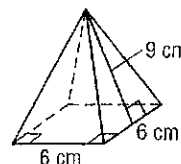
- A. 3 units B. 6 units C. 12 units D. 30 units

13. B

For Questions 14 and 15, use the figure.

14. Find the lateral area.

- A. 108 cm² B. 144 cm²
C. 162 cm² D. 324 cm²



14. A

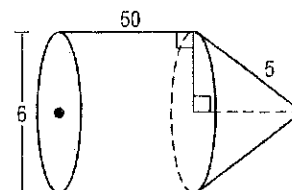
15. Find the surface area.

- A. 108 cm² B. 144 cm² C. 162 cm² D. 324 cm²

15. B

16. Find the surface area to the nearest tenth.

- A. 546.6 units² B. 989.6 units²
C. 1017.9 units² D. 1046.2 units²



16. C

17. The radius of a right circular cone is 6 inches and the height is 8 inches. Find the slant height.

- A. 2 in. B. 4 in. C. 10 in. D. 14 in.

17. C

18. A cone has a radius 17 inches long and slant height 20 inches long. Find the surface area to the nearest tenth.

- A. 18,158.4 in² B. 1976.1 in² C. 1068.1 in² D. 340 in²

18. B

19. Which could be the intersection of a sphere and a plane?

- A. line B. square C. oval D. point

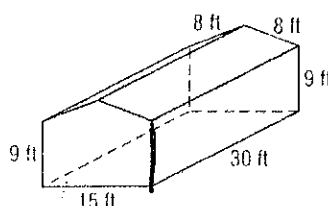
19. D

20. A sphere has a diameter 42 centimeters long. Find the surface area to the nearest tenth.

- A. 5541.8 cm² B. 2770.9 cm² C. 2167.1 cm² D. 527.8 cm²

20. A

Bonus Find the amount of glass needed to cover the sides of the greenhouse shown. The bottom, front, and back are not glass.



B: 1020 ft²

Write the letter for the correct answer in the blank at the right of each question.

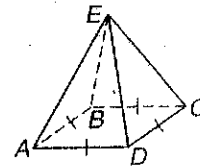
- ~~1.~~ Which of these is part of an orthogonal drawing?
 A. a perspective view
 B. a corner view
 C. a two-dimensional top view
 D. a three-dimensional view

For Questions 2-4, use the figure.

2. Identify this solid figure.

A. square pyramid
 C. triangular pyramid

B. square prism
 D. triangular prism



3. Name the base.

A. $\triangle ABE$

B. $\square ABCD$

C. $\triangle CDE$

D. E

4. How many edges does this figure have?

A. 3

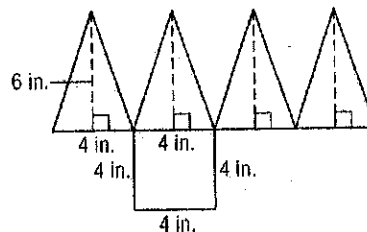
B. 4

C. 6

D. 8

- ~~5.~~ This net could be folded into a ____?

A. tetrahedron
 B. square pyramid
 C. square prism
 D. triangular prism



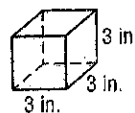
6. Find the surface area of this solid.

A. 9 in^2

B. 27 in^2

C. 36 in^2

D. 54 in^2



7. The areas of how many faces of a rectangular prism would be included in the lateral area?

A. 2

B. 4

C. 6

D. 8

8. Find the surface area of a rectangular prism with a length of 8 inches, a width of 5 inches, and a height of 2 inches.

A. 15 in^2

B. 66 in^2

C. 80 in^2

D. 132 in^2

9. The area of each face of a cube is 60 square centimeters. Find the surface area of the cube.

A. 120 cm^2

B. 240 cm^2

C. 360 cm^2

D. 3600 cm^2

10. The lateral area of a right cylinder with a radius of 10 feet is 320π square feet. Find the surface area of the cylinder.

A. $220\pi \text{ ft}^2$

B. $360\pi \text{ ft}^2$

C. $420\pi \text{ ft}^2$

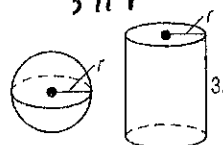
D. $520\pi \text{ ft}^2$

13 Chapter 13 Test, Form 1 (continued)

12. Which solid has the greater volume?

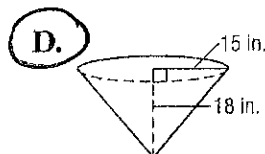
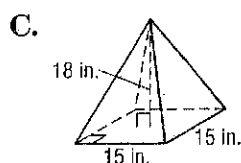
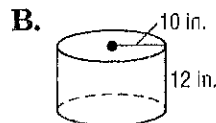
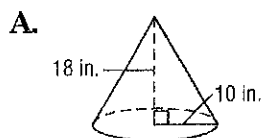
- A. sphere
C. The volumes are equal.

- B. cylinder**
D. not enough information



12. B

13. Which solid is similar to this solid?



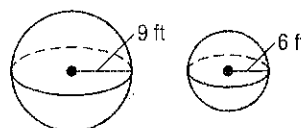
$\sqrt{x}3$

13. D

14. Which of the following describes the two spheres?

- A. congruent
C. both A and B

- B. similar**
D. neither A nor B



14. B

15. The ratio of the side lengths of two cubes is 3:7. Find the ratio of their volumes.

A. 3:7

B. 9:21

C. 9:49

D. 27:343

15. D

16. Two similar prisms have equilateral triangular bases and the edges of the bases are 50 centimeters and 20 centimeters. Find the ratio of the perimeters of the bases.

A. $5\sqrt{2}:2\sqrt{5}$

B. 5:2

C. 25:4

D. 125:8

16. B

~~17.~~ Find the coordinates of the image of $A(-3, 5, 6)$ under the translation $(x, y, z) \rightarrow (x - 3, y + 5, z - 1)$.

A. $A'(0, 0, 5)$

B. $A'(0, 10, 5)$

C. $A'(-6, 0, -7)$

D. $A'(-6, 10, 5)$

~~17.~~

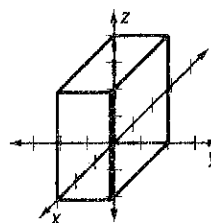
~~18.~~ The graph of the rectangular solid contains the origin and which other point?

A. (3, 2, 4)

B. (2, 4, 3)

C. (4, 3, 2)

D. (3, 4, 2)



~~18.~~

For Questions 19 and 20, $A(6, 5, 4)$ and $B(-2, 4, 0)$.

~~19.~~ Find the coordinates of the midpoint of \overline{AB} .

A. $(4, \frac{1}{2}, 2)$

B. (8, 1, 4)

C. (4, 9, 4)

D. $(2, \frac{9}{2}, 2)$

~~19.~~

~~20.~~ Find the distance between A and B.

A. $\sqrt{13}$

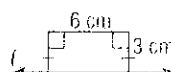
B. $\sqrt{17}$

C. 9

D. $\sqrt{113}$

~~20.~~

~~Bonus~~ Describe the solid that could be formed by rotating this figure about line ℓ .



~~B.~~

13 Chapter 13 Test, Form 1

Write the letter for the correct answer in the blank at the right of each question.

1. Which of the following could be the units of measure for the volume of a solid?

A cubic inches B. square inches C. inches D. cubic seconds

2. The area of the base of a prism is 96 square centimeters and the height is 9 centimeters. Find the volume.

A. 288 cm³ B. 864 cm³ C. 932 cm³ D. 7776 cm³

3. The volume of a cylinder is 62.8 cubic meters and the radius is 2 meters. Find the height to the nearest meter.

A. 20 m B. 10 m C. 8 m D. 5 m

4. A cylinder has a radius that is 4 inches long and a height that is 9 inches long. Find the volume to the nearest tenth.

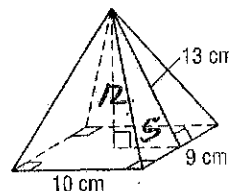
A. 131.1 in³ B. 226.2 in³ C. 452.4 in³ D. 1809.6 in³

5. Find the volume of a pyramid with a height of 10 inches and a base with an area of 21 square inches.

A. 210 in³ B. 105 in³ C. 70 in³ D. 35 in³

6. Find the volume of the pyramid.

A. 360 cm³ B. 390 cm³ C. 1080 cm³ D. 1170 cm³

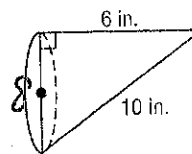


7. A cone and a cylinder have the same radius and the same height. The volume of the cone is what fraction of the volume of the cylinder?

A. $\frac{1}{2}$ B. $\frac{1}{3}$ C. $\frac{1}{4}$ D. $\frac{1}{8}$

8. Find the volume to the nearest tenth.

A. 1206.4 in³ B. 402.1 in³ C. 301.6 in³ D. 100.5 in³



9. A sphere has a radius that is 12 centimeters long. Find the volume to the nearest tenth.

A. 7238.2 cm³ B. 3619.1 cm³ C. 1809.6 cm³ D. 603.2 cm³

10. A sphere has a volume that is 36π cubic meters. Find the radius of the sphere.

A. 2 m B. 3 m C. 6 m D. 12 m

11. The radius of a sphere is increased from 6 inches to 8 inches. How much is the volume increased to the nearest tenth?

A. 3719.6 in³ B. 1239.9 in³ C. 117.3 in³ D. 33.5 in³